Take Test: Quiz 5.1

Test Information

Description	
Instructions	
Multiple Attempts	This test allows multiple attempts.
Force Completion	This test can be saved and resumed later.

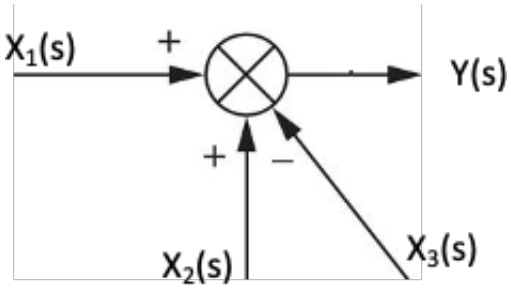
QUESTION 1 **1 points** Saved

True or false? Block diagram reduction changes the input-output relationship of a complex system.

- ○ True
- ◉ False

QUESTION 2 **1 points** Saved

Which of the following equations describes the summation junction pictured?

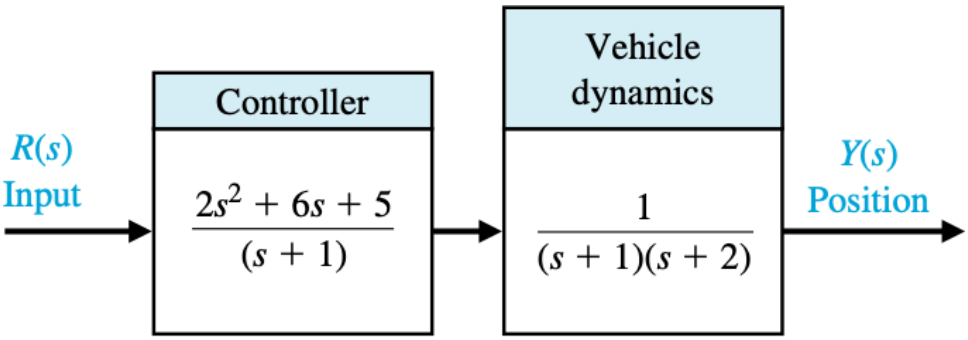


- $Y(s) = X_1(s) \cdot X_2(s) / X_3(s)$
- $Y(s) = X_1(s) + X_2(s) + X_3(s)$
- **(selected)** $Y(s) = X_1(s) + X_2(s) - X_3(s)$
- $Y(s) = X_1(s) \cdot X_2(s) \cdot X_3(s)$

QUESTION 3

1 points Saved

The following figure describes the longitudinal dynamics of an autonomous vehicle, along with a controller for lane-keeping. Which of the following equations describes the input-output relationship pictured?



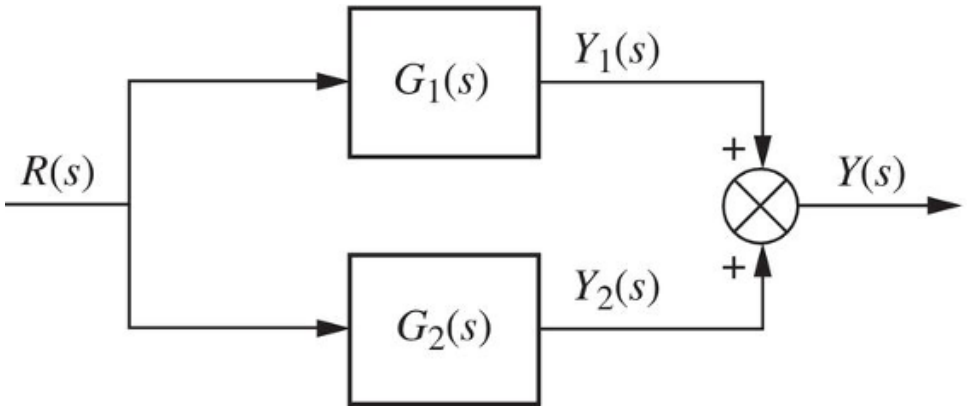
- **(selected)** $Y(s) = \frac{2s^2 + 6s + 5}{(s+1)^2(s+2)} R(s)$
- $Y(s) = \frac{2s^2 + 6s + 6}{(s+1)(s+2)} R(s)$
- $Y(s) = \frac{2s^2 + 6s + 5}{(s+1)(s+2)} R(s)$

Question Completion Status:

QUESTION 4

1 points Saved

Which of the following describes $\frac{Y(s)}{R(s)}$?



- $\frac{Y(s)}{R(s)} = G_1(s)G_2(s)$
- $\frac{Y(s)}{R(s)} = G_1(s) + G_2(s)$
- $\frac{Y(s)}{R(s)} = G_1(s)Y_1(s) + G_2(s)Y_2(s)$
- $\frac{Y(s)}{R(s)} = G_1(s)/G_2(s)$

Click Save and Submit to save and submit. Click Save All Answers to save all answers.

Save All Answers | **Save and Submit**